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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/651,754	08/30/2000	Michael E. Campbell	20-0139	2627

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EXAMINER

PEREZ GUTIERREZ, RAFAEL

ART UNIT	PAPER NUMBER
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2686

DATE MAILED: 08/12/2004

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/651,754

Applicant(s)

Campbell

Examiner

Rafael Perez-Gutierrez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. This Action is in response to Applicant's amendment filed on May 25, 2004. **Claims 1, 2, and 4-22** are now pending in the present application. **This Action is made FINAL.**

Claim Objections

2. **Claims 1 and 18** are objected to because of the following informalities:
 - a) On **line 10** of **claim 1**, insert --to-- after "it,"; and
 - b) On **lines 2 and 3** of **claim 18**, replace "building block" with --multifunction slice-- in order to provide proper antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office Action:

A person shall be entitled to a patent unless -- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4-8, 14-17, 19, 21, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by **Wolfe et al.** ("*Integrated CNI Avionics Using F-22 Modular Products*"), newly cited.

Consider **claim 1**, Wolfe et al. clearly show and disclose a method for operating a

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transceiver-processor building block and a transceiver-processor building block for an electronic radio system multifunction slice (slice is read in accordance with the language in the specification to simply mean a grouping of radio resources) (figures 1 and 2), the building block comprising:

- a plurality of simultaneously operable bi-directional transceivers (i.e., Xmtrs and Rcvrs) (figure 1 and page 265 right hand column, where it is disclosed that the building block accommodates functional simultaneity);

- a CNI RF controller (processor) coupled to the transceivers (i.e., Xmtrs and Rcvrs) (figure 1);

- a control bus (local RF control bus) inaccessible directly from outside the multifunction slice and coupled between the CNI RF controller (processor) and the transceivers (i.e., Xmtrs and Rcvrs) to provide control signals to the transceivers (i.e., Xmtrs and Rcvrs) (figure 1 and page 270 right hand column second full paragraph);

- a maintenance (network) bus coupled to the CNI RF controller (processor) (figures 2 and 7); and

- a maintenance (network) bus connector (inherent) coupled to the maintenance (network) bus to provide direct accessibility to the maintenance (network) bus from outside the multifunction slice (figure 1), wherein multiple multifunction slices are interconnectable through the maintenance (network) bus, to provide increased functionality (figure 7 and page 270 right hand column second full paragraph).

Consider **claim 2**, and **as applied to claim 1 above**, Wolfe et al. further disclose that the

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block further comprises an external control bus coupled to the processor and, inherently, an external control bus connector providing direct accessibility to the external control bus from outside the multifunction slice (figure 7 and page 270 right hand column second full paragraph).

Consider **claims 4, 5, 19, 21, and 22**, and **as applied to claim 1 above**, Wolfe et al also disclose that the a maintenance (network) bus carries unencrypted information and is isolated from the control bus (local RF control bus) with electromagnetic shielding (since the buses are low electromagnetic interference (EMI) buses (figure 1, page 265, and page 267 left hand column - page 269 left hand column).

Consider **claims 6 and 7**, and **as applied to claim 1 above**, Wolfe et al. further disclose that the processor includes encryption and decryption support circuitry (e.g., COMSEC) for each transceiver in the plurality of transceivers (i.e., Xmtrs and Rcvrs) (figure 1 and page 267 left hand column - page 269 left hand column).

Consider **claim 8**, and **as applied to claim 6 above**, Wolfe et al. also disclose that the encryption and decryption support includes at least one of KGV-8, KGV-10, KGV-11, KGV-23, KGR-96, and KY-58 encryption and decryption support (figure 3 and page 267 left hand column - page 269 left hand column).

Consider **claims 14 and 16**, Wolfe et al. clearly show and disclose an electronic radio system multifunction slice (slice is read in accordance with the language in the specification to simply mean a grouping of radio resources) supporting a predetermined number of communication threads (figures 1 and 2 and page 267), the multifunction slice comprising:

antenna interface and electronics (RF aperture interface) (figure 1);

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a plurality of simultaneously operable bi-directional transceivers (i.e., Xmtrs and Rcvrs) coupled to the antenna interface and electronics (RF aperture interface) (figure 1 and page 265 right hand column, where it is disclosed that the building block accommodates functional simultaneity);

a CNI RF controller (processor) coupled to the transceivers (i.e., Xmtrs and Rcvrs) (figure 1);

a control bus (local RF control bus) inaccessible directly from outside the multifunction slice and coupled between the CNI RF controller (processor) and the transceivers (i.e., Xmtrs and Rcvrs) to provide control signals from the CNI RF controller (processor) to the transceivers (i.e., Xmtrs and Rcvrs) and the antenna interface and electronics (RF aperture interface) (figure 1 and page 270 right hand column second full paragraph);

a maintenance (network) bus coupled to the CNI RF controller (processor) (figures 2 and 7);

a maintenance (network) bus connector (inherent) coupled to the maintenance (network) bus to provide direct accessibility to the maintenance (network) bus from outside the multifunction slice (figure 1), wherein multiple multifunction slices are interconnectable through the maintenance (network) bus, to provide increased functionality (figure 7 and page 270 right hand column second full paragraph); and

a processor and aircraft interface (backplane interface) coupled to the CNI RF controller (processor), the processor and aircraft interface (backplane interface) providing a backplane input and a backplane output (figure 1, page 264-266, and page 270 right hand column second

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full paragraph).

Consider **claim 15**, and **as applied to claim 14 above**, Wolfe et al. further disclose that the slice further comprises an external control bus coupled to the processor and, inherently, an external control bus connector providing direct accessibility to the external control bus from outside the multifunction slice (figure 7 and page 270 right hand column second full paragraph).

Consider **claim 17**, and **as applied to claim 14 above**, Wolfe et al also disclose that the a maintenance (network) bus carries unencrypted information and is isolated from the control bus (local RF control bus) (figure 1, page 265, and page 267 left hand column - page 269 left hand column).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness

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or nonobviousness.

5. **Claims 9-13, 18, and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wolfe et al. ("Integrated CNI Avionics Using F-22 Modular Products")**, newly cited, in view of well known prior art (MPEP 2144.03).

Consider **claims 9-13, 18, and 20**, and as applied to **claims 2-4, 17, and 19 above**, Wolfe et al. clearly disclose the claimed invention except that:

the network bus transfers transmission coordination data and voice data into and out of the building block/multifunction slice (claims 9 and 18);

the control bus (local RF control bus) carries tuning data such as intermediate frequency (IF) bandwidth information and IF frequency gain characteristics for the plurality of transceivers (i.e., Xmtrs and Rcvrs) (claims 10, 11, and 18); and

the external control bus carries antenna interferometer configuration data (claims 12, 13, 18, and 20).

Nonetheless, Wolfe et al. clearly suggest that the above-mentioned buses can transfer and carry the claimed data and configuration information (figure 7).

Therefore, the Examiner takes Official Notice of the fact that it is notoriously well known in the art to transfer or carry such data and configuration information through the above-mentioned buses for the purpose of enhanced performance of the building block. Several references cited below also disclose and suggest the transfer or carry of such information.

Consequently, it would have been obvious to a person of ordinary skill in the art at the

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time the invention was made to transfer or carry such information, respectively, through the network , external, and local RF control buses in the teachings of Wolfe et al. for the purpose of enhancing the performance of the building block.

Response to Arguments

6. Applicant's arguments with respect to **claims 1, 2, and 3-22** have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

Harris discloses modular avionics and its impacts on communication, navigation, and identification (CNI);

Bryson discloses an integrated CNI terminal software architecture.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office Action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE**

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MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any response to this Office Action should be **faxed to (703) 872-9306 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Crystal Park II
2021 Crystal Drive
Arlington, VA 22202
Sixth Floor (Receptionist)

10. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Rafael Perez-Gutierrez whose telephone number is (703) 308-8996. The Examiner can normally be reached on Monday-Thursday from 6:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's

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supervisor, Marsha D. Banks-Harold can be reached on (703) 305-4379. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700 or call customer service at (703) 306-0377.


Rafael Perez-Gutierrez
R.P.G./rpg **RAFAEL PEREZ-GUTIERREZ**
PATENT EXAMINER

August 8, 2004


CHARLES APPIAH
PRIMARY EXAMINER